

REMARKS

The Official Action mailed January 30, 2002 has been received and its contents carefully noted. Filed concurrently herewith is a *Request for Two Month Extension of Time* which extends the shortened statutory period for response to June 30, 2002. Accordingly, Applicant respectfully submits that this response is being timely filed.

Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on January 13, 2000, April 27, 2000, June 9, 2000, January 31, 2001, July 5, 2001, August 15, 2001 and October 15, 2001. However, Applicant has no record of receiving acknowledgement of the Information Disclosure Statements filed on January 3, 2001 and January 9, 2002.

Claims 13-45 were pending in the present application. Claims 18-45 have been withdrawn from consideration and claims 13-17 are now pending in the present application, of which claim 13 is independent.

Paragraph 3 of the Official Action objects to the title of the application as not being descriptive. In response, the title has been amended herewith and is believed to be adequately descriptive of the present invention. Reconsideration is requested.

Paragraph 5 of the Official Action objects to the specification due to minor informalities. Specifically, the Official Action asserts that it is unclear whether Fig. 9 discloses the TFT of the 5th embodiment. In response, it is noted that Fig. 9 corresponds to "Embodiment Mode 4," which includes examples as depicted in Figs. 8 and 9. It is respectfully submitted that a review of page 21, lines 6 on makes this clear and reconsideration is requested in view thereof.

Furthermore, page 14, line 6 of the specification has been amended to correct "126" to --126A-- in response to the objection in the Official Action. Reconsideration is requested.

Paragraph 6 of the Official Action asserts that Figs. 34A to 34H should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. However, as discussed on pages 7-8, these figures are used for explaining one feature of the present invention as compared with a conventional structure (page 7, lines 4-5). Figures 34G and 34H are clearly directed to the present invention and Figures 34A-34F are used to explain problems of the prior art and the recognition of these problems may

be one basis for the patentability of the subject application. As such, it is asserted that these Figures do not merely illustrate "that which is old" and that they should therefore not be labeled --prior art--. Reconsideration is requested in view of the above remarks.

Paragraph 7 of the Official Action objects to claim 13 due to minor informalities. Claim 13 has been amended herewith and reconsideration is respectfully requested in view of these amendments.

Paragraph 8 of the Official Action rejects claims 13-17 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art. In response, claim 13 has been amended herewith to more clearly recite the structure as depicted in Fig. 2C of the present application. It is respectfully submitted that claim 13 as amended herewith is in accord with 35 U.S.C § 112 first paragraph and reconsideration is requested in view thereof.


Paragraph 10 of the Official Action rejects claims 13, 15 and 16 as anticipated by U.S. Patent 4,851,363 to Troxell et al. It is well established that "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

In response, as noted above, claim 13 has been amended herewith to more clearly recite the structure as depicted in Fig. 2C of the present application. It is respectfully submitted that Troxell fails to disclose each and every element recited in claim 13 as amended and that Troxell therefore cannot anticipate claim 13. Specifically, at least the pair of LDD regions and the gate electrode having first and second conductive layers are not disclosed by Troxell and therefore claim 13 is not anticipated thereby. Favorable reconsideration is requested in view thereof.

Paragraph 12 of the Official Action rejects claim 17 as being obvious based on Troxell and paragraph 13 of the Official Action rejects claim 14 as obvious based on the combination of Troxell and U.S. Patent 4,394,182 to Maddox et al. It is respectfully submitted that Maddox does nothing to overcome the deficiencies noted above with respect to Troxell and that these claims are allowable for the same reasons as noted above. Reconsideration is requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please amend the specification as follows:

On page 14, First Full Paragraph

As shown in Fig. 4A, the concentration of phosphorus in a second impurity region 124A is in inverse proportion to the change of the thickness of the taper portion of the first gate electrode 108, and it is almost linearly decreased from the third impurity region [126] 126A toward a channel formation region 121A. That is, in the case where the concentration of phosphorus in the second impurity region 124A is averaged in the depth direction, the averaged concentration of phosphorus increases from the channel formation region 121A toward the third impurity region 126A.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend claims 13, 14 and 16 as follows:

13. (Amended) A semiconductor device comprising:
a semiconductor island on an insulating surface;
source and drain regions formed in the semiconductor island;
a channel region in the semiconductor island between the source and
drain regions;
a pair of LDD regions formed between the channel region and the source
and drain regions [at least an LDD region being contact with the channel region and
including a first impurity region and a second impurity region, said first impurity region
being in contact with the channel region and said second impurity region being in
contact with the first impurity region];
[at least a third impurity region being in contact with the second impurity
region;]
a gate electrode [being] formed over the semiconductor island with a gate
insulating film interposed therebetween [and having a first gate electrode and a second
electrode being formed on the first gate electrode] wherein said gate electrode
comprises at least a first conductive layer and a second conductive layer formed on the
first conductive layer, said first conductive layer having a pair of tapered portions, which
extend beyond side edges of the second conductive layer,
wherein the pair of the LDD regions has a pair of first portions which are
overlapped by the pair of the tapered portions of the first conductive layer, and a pair of
second portions which extend beyond side edges of the first conductive layer.
[wherein the first gate electrode has at least a taper portion and a flat
portion,]
[wherein the first impurity region is overlapped with the taper portion of the
first gate electrode with the gate insulating film interposed therebetween,

VERSION WITH MARKINGS TO SHOW CHANGES MADE

wherein the second impurity region is overlapped with neither the first gate electrode nor the second gate electrode.]

14. (Amended) A device according to claim 13, wherein an angle between the [taper portion] tapered portions of the first [gate electrode] conductive layer and the gate insulating film is in a range of 3 to 60 degrees.

16. (Amended) A device according to claim 13, wherein the first [gate electrode] conductive layer includes at least one selected from the group consisting of chromium (Cr), tantalum (Ta) an n-type silicon containing phosphorus, titanium (Ti), tungsten (W), and molybdenum (Mo) while the second [gate electrode] conductive layer includes at least one selected from the group consisting of aluminum (Al), copper (Cu), chromium (Cr), tantalum (Ta), titanium (Ti), tungsten (W), [or] molybdenum (Mo), an n-type silicon containing phosphorus, and silicide.